An Examination of The Relationship Between Students Participating in A College Readiness Course and Success Outcomes at a Community College

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Terri Speights

M.Ed., Nova Southeastern University, 2006
B.S., Florida International University, 1999

This dissertation, "An Examination of the Relationship Between Students participating in a College Readiness Course and Success Outcomes at a Community College, " by Terri Speights, is approved by:

Dissertation Committee Chair

James L. Pate, Ph.D.
Professor of Curriculum, Leadership, and Technology

Committee Members

James G. Archibald, Ph.D.
Associate Professor of Curriculum, Leadership, and Technology

Gerald R. Siegrist, Ed. D.
Professor of Curriculum, Leadership, and Technology

Associate Provost For Graduate Studies and Research

Becky K. de Cruz, Ph.D., J.D.
Professor of Criminal Justice

Defense Date

July 26, 2018

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ABSTRACT

Historically, Community College has been the gateway to higher education for many students regardless of their background or academic achievement level. Perhaps this may explain why the retention rates at Community Colleges are consistently lower than four-year institutions. Only 29% of full-time degree seeking Community College students graduate within three years of their initial enrollment (McFarland et al., 2017). Although several programs have been implemented to increase retention, few studies have addressed how effective these strategies are at Community College. Using data from Florida Community College, this causal-comparative study examined the effects of a Summer Bridge (SB) course on student success outcomes. Also, this study explored how the effects varied by gender and ethnicity. The sample ($N = 1735$) was comprised of two groups: a cohort of first-time, full-time degree-seeking students who were enrolled in SB during Summer 2015 and a matched comparison group who enrolled the following term, Fall 2015. Findings revealed a statistically significant difference between the two groups on academic integration by gender and ethnicity. Results suggest that participation in Summer Bridge promotes integration into the academic and social system of the college which increases the chance of students persisting to graduation. Although findings revealed a statistically significant difference between the groups on success indicators, no causal link can be established. Further in-depth investigation into the effects of enrolling in a SB course using an experimental design with a qualitative component is warranted.

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DEDICATION

To my children Brandon, Justin, Jameka, Jasmin and companion Felix. Your understanding, patience, support, and love made this journey possible and worth it! You are the wind beneath my wings.

Chapter I

INTRODUCTION

Community College is the gateway to higher education for many students, especially those who are unable to meet the admission standards of a four-year institution. The open-access admission policy, low-tuition rates, and convenience in location attracts students from all backgrounds and academic levels. Many students arrive on campus with personal background characteristics which makes it difficult to adjust to the college environment (O'Gara, Karp and Hughes, 2008). Perhaps this may explain why the first year of college, especially the first few weeks, are the most critical point of transitioning to college life (Astin, 1993; Tinto, 1993). When a student fails to connect academically and socially into the college environment, they tend to isolate themselves and eventually leave college before completing their educational goals (Astin,1993; Tinto, 1993). Retention rates have been a major concern for higher education institutions for at least four decades. The National Center for Education Statistics reported that of first-year full-time students entering community college, only 61% of them returned their second year as compared to 80% at four-year institutions (McFarland, J., Hussar, B., De Bray, C., Snyder, T., Wang, X., Wilkinson-Flicker, S., Gebrekristos, S., Zhang, J., Rathbun, A., Barmer, A., Bullock Mann, F., and Hinz, S., 2017).

Another major concern for community colleges related to retention is the number of students entering who are unprepared for college-level coursework. Researchers have found that approximately 67% of students entering community college need at least one remedial course as compared to 49% at four-year institutions (Bailey, Jeong, and Cho, 2010). Baily et al. (2010)

found that of the students who are referred to developmental courses, only half of them complete the sequence and move on to college-level coursework. Also, Bonham & Boylan (2012) reported that of all the remedial courses offered, the highest rates of failure and non-completers are in the subject area of mathematics. A report from the Center for American Progress estimated that the cost of remediation in public institutions nationwide is approximately 1.3 billion dollars (Jimenez, Sargrad, Morales, & Thompson, 2016). Students needing remediation generally take longer to complete their educational goals and are much more likely to drop out before graduation than their counterparts (Adelman, 2006). Guided by their mission statement, Community Colleges have a responsibility to help raise the educational level of their underprepared students by providing support services, especially to those who are considered "high risk" of attrition (Astin & Oseguera, 2005). At-risk students are defined as those who are academically underprepared, first-generation, low-income, and individuals with learning disabilities (Kuh, Cruce, Shoup, Kinzie, & Gonyea, 2008).

High attrition rates can have a negative impact on students, the institution, and the economy. Community college plays a key role in educating the workforce of the future. The globally competitive job market will continually drive the demand for higher skilled workers. It is estimated that more than 63% of future employment opportunities will require employees to possess a postsecondary education (Carnevale, Smith, & Strohl, 2010). Persisting to degree completion can provide students with more opportunities, earn higher wages, and job satisfaction. A career outlook report from the Bureau of Labor Statistics reported that students who persist to graduation can expect to earn up to three times as much as those with only a high school diploma (Torpey, 2018). High attrition rates negatively affect the workforce and our society when we fall short as a nation in producing highly educated individuals who are capable

of leading the future of our country. Also, the impact of high attrition rates on the economy can result in high unemployment rates, fewer jobs, more money spent on funding government assistance programs and public health care. In February 2009, President Obama introduced the American Graduation Initiative (AGI), in which he challenged higher education institutions to produce the highest number of college graduates in the world. The goal of the AGI was to help strengthen the economy by preparing college students for the demand of the future job market.

Demands of institutional accountability from state and federal lawmakers prompted the "Student Right-To-Know Act," which requires higher education institutions to report student retention statistics. This reported data is also used to determine the ranking of the college and the level of financial support given by the government. If higher education institutions fail to reduce attrition rates, the long-term effects can cause a loss of funding, accreditation, and educational rankings. An institution's effectiveness is often assessed in terms of academic achievement, retention rates, and timely graduation. Pascarella and Terenzini (2005) emphasized that "As the pressures have grown on institutions to increase retention and degree completion, so has the research examining the effectiveness of programmatic interventions designed to promote both outcomes" (p. 398).

Statement of the Problem

A large percentage of Community College students enter college with background characteristics that make it difficult to adjust to the academic and social setting of college. Perhaps this may explain why the retention rates at Community College are consistently lower than four-year institutions. Only 29% of full-time degree-seeking Community College students graduate with the normal time, which is three years from initial enrollment. To address this problem and help students transition through college, several program intervention initiatives

have been implemented to increase student completion rates. One of the most commonly used strategies to address attrition is utilizing a Student Success Course (SSC). This course is also known by other names such as First-Year Experience (FYE), College 101, and First-Year Orientation Seminar. Approximately 90% of higher education institutions offer some first-year experience course (Pascarella & Terenzini, 2005). Other related courses include TRIO, Summer Bridge, Holistic Advising, Learning Communities, Service Learning and Developmental Courses. For this study, these college success programs are referred to as Student Success Courses (SSC). The majority of SSCs focus on introducing freshman to the college experience, teaching study skills, assisting with advising and career planning, providing academic tutoring, and participation in activities that promote social integration.

Several studies support the claim that SSCs have a positive effect on academic achievement, persistence and graduation (Bailey, Jeong, and Cho, 2010; Clouse, 2012; O'Gara, et al., 2008; Ryan, 2013; Wilkerson, 2008; Zeidenberg, Jenkins, and Calgano, 2007). While a majority of studies examining the impact of SSC has yielded a significant positive effect on several student success outcomes, not all studies have made that claim (Clark and Cundiff, 2011; Fike and Fike, 2008; Jamelske, 2009; Malik, 2011; Potts and Schultz, 2008). Also, these programs are rarely assessed to determine if they are successful in improving retention rates, particularly at the Community College level. Given the mixed findings on previous studies, this study seeks to fill a gap by examining the effectiveness of a SSC course in a community college setting, an environment that has been largely excluded from the majority of prior retention studies.

Theoretical Framework

Over the past decades, several student development models and theories have attempted to explain the phenomena of what causes students to leave or stay in college. Two of the most widely accepted theories in student retention, Tinto 's (1987, 1993) Theory of Student Departure and Astin's (1984, 1993) Theory of Student Involvement were used as the framework to guide this study. These theories explain how students change and develop in college and are influenced by the college environment. Both theories have been tested, refuted and supported by numerous retention studies over the years. The practice and application of Tinto (1993) and Astin's (1993) theories justify the need for implementing student success intervention programs. Both models are discussed in detail in the following chapter.

Purpose of the Study

The purpose of this study was to determine whether participation in a Summer Bridge College Readiness program has any effect on student success outcomes (as measured by academic performance, retention and graduation rates) of first-time incoming degree-seeking students at a community college. In addition, this study investigated how the effects differ by gender and ethnicity on student success outcomes.

Research Questions

The research questions and hypotheses statements that form the basis of this study were as follows:

RQ1: Is there any significant difference in the *academic achievement, retention and graduation rates* between students who participated in a Summer Bridge College Readiness program and their counterparts who did not?

RQ2: Is there any significant *gender* difference in the *academic achievement, retention and graduation rates* between students who participated in a Summer Bridge College Readiness program and their counterparts who did not?

RQ3A: Is there any significant *ethnic* difference in the *academic achievement, retention and graduation rates* between students who participated in a Summer Bridge College Readiness program and their counterparts who did not?

Null Hypotheses

$H_0 1$: There is no statistically significant difference in the *academic achievement, retention and graduation rates* between students who participated in a Summer Bridge College Readiness program and their counterparts who did not.

$H_0 2$: There is no statistically significant *gender* difference in the *academic achievement, retention and graduation rates* between students who participated in a Summer Bridge College Readiness program and their counterparts who did not.

$H_0 3$: There is no statistically significant *ethnic* difference in the *academic achievement, retention and graduation rates* between students who participated in a Summer Bridge College Readiness program and their counterparts who did not.

Definitions of Terms

The following terms are defined and chosen for this study to provide a clearer understanding of the student retention terminology.

Attrition. The number of students who leave college before completing their educational goal.

Completion rates. Refers to the percentage of students who complete their educational goals or degree program.

First-Time Student. Any student enrolled full-time (12 or more credit hours) who are entering college for the first time.

Graduation rates. The percentage of students who complete their program of study within 150% of the normal time, which is approximately three years (McFarland et al., 2017).

Persistence. See *Retention*.

Retention. The terms retention and persistence are used interchangeably and refer to the completion of the first year of college, followed by subsequent re-enrollment in the second year (McFarland et al., 2017). For this study, *retention* is referred to as enrolling in college and remaining at the same institution until graduation.

Student Success. Noel-Levitz (2008) defined this term as "successful completion of student's academic goals of degree attainment." In this study, the level of student success is determined by academic achievement (as measured by cumulative GPA), retention, and graduation (as measured by the number of credit hours earned).

Summary of Methodology

This study employed a causal-comparative research design to examine the relationship between the independent variables (student's participation or non-participation in a student success course) and the dependent variables (academic achievement, retention, and graduation). An ex-post facto research design was appropriate for this study because the researcher was not able to manipulate the independent variable since the outcome had already occurred (Creswell, 2014). This study investigated if there were any significant difference between the groups on academic achievement, retention, and graduation. Seven variables were tested in this study which includes: Two independent variables (participation and non-participation in Summer Bridge) and five dependent variables: gender, ethnicity, academic performance, retention and

graduation. This study utilized secondary data that was provided by the Office of Institutional Research & Effectiveness located at the research site. Descriptive and inferential statistics were used to analyze data.

Significance of Study

Higher education institutions have implemented several intervention strategies to improve success and retention. Nearly 75% of all college and universities offer student success courses. While a majority of past studies examining the impact of a SSC yielded a positive effect on success outcomes, few have examined the programs' effectiveness at the community college level (O'Gara, Karp, Hughes,2008; Porter & Swing, 2006; Pascarella & Terenzini 2005; Jamelske, 2009; Zeidenberg et al., 2007; Kuh et al., 2008). Therefore, this study fills a gap by adding to the body of research examining the impact of a SSC on student outcomes at a two-year institution.

The findings from this study are useful to faculty, administrators and policymakers as they strive to improve and redesign programs that are more effective in increasing retention and graduation. Given the financial budgets and resources allocated for student retention initiatives, studies examining a program's effectiveness allows administrators to make informed decisions about which programs are most effective and are aligned with the goals of the institution.

Assumptions

This study utilized pre-existing secondary data to produce a cohort of First-Time-In-College (FTIC) students from Fall 2015 to Spring 2018 to answer the research questions at the focus of this study. The researcher is under the assumption that the Office of Institutional Research & Effectiveness has accurately and randomly selected the two groups under the criteria specified during the request. The treatment group consisted of students who received a Summer

Bridge scholarship and were enrolled in SLS1501 in Summer 2015. The control group was a matched group of students whose FTIC was Fall 2015; These students were not enrolled in Summer Bridge. All participants were full-time, FTIC degree-seeking students between the ages of 17-20. The research also assumes the data accurately reflects the student's demographic information, grades, and credit hours for all students involved in the study.

Delimitations

The College Readiness program was implemented to assist underprivileged recent high school graduates' transition to college. The delimitations of this study that deserves mentioning are the exclusion of the following students from the sample selection: 1) students who have already attended college, 2) non-traditional students, 3) transfer students and 4) those who voluntarily dropped out of the program.

Limitations

This study utilized an ex-post facto research design; therefore, the limitations associated with this type of methodology must be considered when inferring or generalizing its findings. One limitation of this study is the fact that data is based on a single institution, which significantly reduces the generalizability and application of these research findings (Porter & Swing, 2006). Another limitation relates to the sampling technique that was utilized. This study involved examining data that have already been collected; therefore, randomly assigning of participants to a group were not possible (Creswell, 2014). In cases where the researcher cannot manipulate or control the predictor variable as in a retrospective design, no cause-effect relationship can be established; however, such studies can only suggest a correlational link. Further studies, particularly a longitudinal experimental design with a qualitative component would strengthen the findings of this study and bring insight into the long-term impact of

participating in a college readiness program (Ellis-O-Quinn, 2012; Padgett, Keup, Pascarella, 2013).

Organization of the Study

Chapter one of this study consisted of an introduction to the problem, followed by the statement of the problem, the conceptual framework, the purpose of the study, research questions, definitions of terms, summary of methodology, significance of the study, assumptions, delimitations, and limitations of the study. Chapter two provides background on the most relevant literature studies from the last two decades, student departure theories, student success intervention initiatives and past studies on the impact of student success courses. Chapter three outlines the research methodology, data collection procedures, research questions, the null hypothesis, and data analysis procedures. Chapter four contains the findings of this study, and lastly, chapter five includes a summary of the interpretation, implications for practice and policy, recommendations, and conclusion of the study.

Chapter II

LITERATURE REVIEW

The purpose of this chapter is to provide a comprehensive background and review of student retention literature as it relates to community colleges. The most relevant retention studies from the last four decades are reviewed. Several theoretical models have been cited in the literature to support student retention initiatives. Two of the most well-supported models are Vincent Tinto's Theory of Student Departure (1987, 1993) and Alexander Astin's Theory of Student Involvement (1984, 1993). These models were selected to guide this study because they explain how various factors and interactions with the college environment can influence student success outcomes. The most recent review of the literature and empirical research was examined to support this study.

Community College Students

The admission policy of Community College opens its doors to any student regardless of their background or achievement level. Perhaps this may explain why the populations of community college students are so diverse in terms of their academic background, intellectual abilities, age, language, ethnicity, and socioeconomic status. Another major concern for Community College is the number of students who arrive on campus underprepared for college. Past studies have indicated that students who are underprepared, low-income, and first-generation are more "at-risk" of dropping out before completing their educational goals than their counterparts (Adelman, 2006; Astin, 1993; Kuh et al., 2008). Kuh et al., 2008, emphasized that the first weeks of college can be a difficult adjustment for some students; especially those

who are considered at-risk. The National Center for Education Statistics reported only 61% of first-year full-time community college students returned their second year as compared to 80% at four-year institutions (McFarland et al., 2017). Changes in student demographics, demands for accountability and stagnant retention rates have prompted higher institutions to refocus their attention on strategies to improve student success.

Student Retention

A substantial amount of research and theory has been developed over the years to address student retention. Retention occurs when a student enrolls in college and remains at the same institution until graduation. Of the first-time, full-time degree-seeking students who entered college in cohort 2013, only 29% earned a degree or certificate three years later; which means 71% did not complete their educational goals (McFarland et al., 2017). The majority of the research on student retention has focused on four-year institutions. There is a lack of research studies at the community college level; therefore, this study closed a gap in the literature on retention at two-year institutions.

Conceptual Framework

Before the early 1970s, students' intellectual ability and personality characteristics were the predominant factors for determining retention and persistence (Berger, Ramirez, and Lyon, 2012; Habley, Bloom, & Robbins, 2012; Spady, 1970; Tinto, 1993). After 1970, studies on student retention began to be grounded in sociology. However, Spady (1970) argued that many of these studies lack "theoretical and empirical coherence, conceptual clarity, methodological rigor, the complexity of design, breath, and analytic sophistication." To date, retention models have become more student-centered, focusing more on student engagement and intellectual involvement. "Education, not retention, is the primary principle of effective retention" and the

primary function of higher education institutions is the education of its students (Tinto, 1993, p. 38).

Tinto's Theory of Student Departure (1987, 1993)

Most of the research on the impact of Student Success Courses are based on the work of Tinto's (1987, 1993) Theory of Student Departure. Tinto's earliest model draws from the work of an anthropologist, Van Gennep (1960) research on *The Rites of Passage*. Van Gennep (1960) described the rites of passage as a process individual go through as they transition from one social system of life to another. Van Gennep postulated three stages individuals must pass through as they develop from youth to adult: separation, transition, and incorporation. In the first phase, the individual must separate themselves from their old social structure (norms, beliefs, and way of life). The second stage involves a period of transition in which the individual must adjust to his or her new environment. In the final stage, the individual has fully integrated themselves into the new environment. Tinto (1993) acknowledged that Van Gennep's (1960) theory "provides us with a way of thinking about the longitudinal process of student persistence in college" (p. 95). Tinto (1993) related this process to the stages a student goes through as they leave high school to enter college. In the *separation* phase, the freshman student has left the high school community, and in some cases has left home (family and friends) to embark on a new community (college). The second phase is the *transition* phase, in which the student began to adjust by taking on new norms, behaviors, and values within the collegiate environment. The last phase, *incorporation*, the student becomes fully integrated into the college community. Tinto (1993) emphasized that each stage of the development process is essential; however, the most crucial phase is the first few weeks of enrollment because this is the period in which most students decide to depart or remain in college. Tinto (1993) cited four basic reasons why

students voluntarily leave college: 1) because of feelings of isolation, 2) the inability to relate to others, 3) difficulty adjusting to the new environment, and 4) failure to integrate into the college community (Tinto, 1993). Tinto emphasized that students who fail to integrate themselves into the collegiate community socially and academically are more likely to "disconnect themselves" and eventually drop out. Tinto (1975, 1993) proposed three factors that can influence a student's decision to leave or stay in college: 1) precollege characteristics, 2) goals and commitments, and 3) institutional experiences. The more a student interacts socially and academically within the environment, the more he or she becomes incorporated and committed to that institution.

Between 1975 and 1993, Tinto made several revisions to this model focusing more on the interaction between the student and the institutional factors. Tinto's (1993) revised model emphasized that higher education institutions consist of two systems: academic and social. If students are going to persist in their educational goals, they must integrate themselves into both systems. Pascarella and Terenzini (2005), defined integration as "The extent to which the individual shares the normative attitudes and values of peers and faculty in the institution and abides by the formal and informal structural requirements for membership in that community or subgroups of it" (p. 403). Academic integration refers to a student's ability to meet college expectations and is commonly measured by grade point average; time spent studying, engagement with studies, and ability to identify as a member within the college community (Tinto, 1993). Social integration is a student's ability to develop and maintain social relationships with peers and faculty (Tinto, 1993). Social Integration is often measured by the number of friends a student has, the quality of friendships, contact hours with faculty outside of the classroom, and participation in social organizations. The Student Integration Model emphasizes that students enter college with pre-entry attributes (family background, skills,

abilities and prior schooling) which shape their initial goals and commitments (Tinto, 1993). This model also suggests that the level of commitment to the institution is directly related to the amount of academic and social integration. However, negative interactions may cause a student to distance themselves from the academic and social communities of the institution, thereby increasing the likelihood of withdrawal (Tinto, 1993). Students who engage in the academic and social system within the campus community increase their level of commitment to the institution and are more likely to graduate. Tinto's Model of Student Departure (1975, 1993) has been tested, supported and refuted by many researchers over the years. The majority have yielded significant evidence that supports his theories, thereby giving it more creditability and validity (Astin, 1993; Cabrera et al., 2013; Fowler & Boylan, 2013; Habley et al., 2012; Jamelske, 2009; Kimbark et al., 2017; O'Gara et al., 2008; Padgett et al., 2013). However, some researchers have opposed Tinto's view of freshmen students disassociating themselves from their community in order to assimilate in the culture of the college (Gonzalez, 1999; Tierney, 1999). It is assumed that students who separate themselves from their old community, and begin to take on new values, norms, and behaviors within the college are more likely persist to graduation. Also, some critics fail to fully support Tinto theory because it appears to place the majority of the responsibility of retention on the student rather than both student and institution. This study, however, supports and draws from Tinto's (1993) theory which suggests social and academic integration into the college environment increases the likelihood of retention. However, this study does not support the idea that a student has to leave their culture and community to integrate into the college environment. The same can be said of a student's language background because the integration and sharing of various cultures can foster a rich, learning environment.

Astin's Theory of Student Involvement (1984, 1993)

Astin's (1984, 1993) Input-Environmental-Outcome (I-E-O) model was his original work which focused on the student being an active participant in the learning process. Astin's IEO model was selected to guide this study because it explains how the college environment impacts students and their development. Astin (1993) emphasized that college outcomes can be perceived as functions of three elements: inputs, environments, and outcomes. The inputs are known as the pre-college characteristics and backgrounds that students bring with them as they enter college. Demographic characteristics such as age, race, gender, and educational background are all examples of input variables. Many students, especially non-traditional (ages 25 and older) come to college with the following inputs: academically unprepared, job commitments, family obligations, and lack of finances. These inputs can become barriers to success, thus increasing the likelihood of dropping out of college before completing their educational goal (Adelman, 2006). The second element, environment, consists of all the experiences and people the student encounters during college. Astin (1993) classified the college environment into two systems (academic and social), in which the student must pass through as they transition through college. Institutional characteristics, student involvement, faculty characteristics, curriculum, and financial aid are examples of some environmental factors which may impact student development. Astin emphasized that the inputs shape the outcomes directly or indirectly with the college environment. Astin (1984, 1993) postulated five basic assumptions about student involvement:

1. It requires an investment of a certain amount of physical and psychological energy. Students must be willing to invest time and energy in their learning if they want to

succeed. The more the student put into the college system (academically and socially) the more he or she gets out.

2. Involvement occurs along a continuum, which means the amount of energy exerted will vary depending on the student. Some students will be more committed to their academic goals and as a result, exert more energy than those who are less committed.
3. Involvement has both qualitative and quantitative features. The more the student becomes involves (quantity), the more they get out in terms of quality.
4. Student develop is directly proportional to the quality and quantity of student involvement.
5. The effectiveness of policy or practice is directly related to its capacity to increase student involvement.

Later, Astin revised his model to focus more on "Student Involvement." (Pascarella & Terenzini, 2005). The Student Involvement Model (Astin, 1993), has some similarity to Tinto's (1993) Student Integration Model, which emphasizes the more students are integrated (academically and socially) and become involved (formally and informally) into the college environment, the more likely they are to persist to graduation. Astin's (1993) Involvement Theory proposes the more students are involved in the academic and social aspects of the college experience, the greater the amount of student learning and personal development.

Astin (1993) emphasized the three most influential types of involvements are those with academic, peers, and faculty. One of the primary measures of academic involvement is the time student spends on learning and interacting with others to gain knowledge. The more a student becomes involved in the academic and social life of the institution, the more likely he or she will earn higher grades, and succeed in college An involved student is one who devotes a

considerable amount of time and energy to studying, spends time on campus engaged in meaningful activities, actively participates in student organizations, campus events, and interacts with faculty and staff (Astin, 1993). Astin emphasized that retention is significantly influenced by student's involvement with the social and academic systems of the college community. Many institutions support Astin's theory and have since implemented many programs to provide students with the opportunity to integrate socially into the college environment through extra-curricular activities. Astin (1993), suggests the more time a student spends on campus, the more likely he or she socially integrates into the college community. Past studies have indicated that student involvement in extracurricular activities and organizations such as fraternities, sororities, honors programs, ROTC, and sports has a positive impact on retention and academics (Kuh et al., 2008). In particular, Kuh et al., (2008) conducted a study to investigate the effects of student involvement in extracurricular activities on retention. Findings indicated that student involvement in meaningful educational activities is positively related to academic outcomes as represented by student's grade and persistence. Students who dropped out of college were less engaged than their peers who persisted (Kuh et al., 2008). When students feel they fit into the social environment, they are much more likely to persist than those who do not (Pascarella and Terenzini, 2005).

Numerous studies on student retention and persistence have supported Astin's theoretical model of Student Involvement (Kuh et al., 2008; Pascarella & Terenzini, 2005). However, some critics have made claims that Astin and Tinto's theories are not suitable for two-year institutions since many Community College students are commuters who spend very little time on campus outside of the classroom due to personal obligations and responsibilities (Braxton, Hirschy, & McClendon, 2011).

The involvement theory also suggests that interaction with faculty and peers are one of the primary factors in retention and has a direct positive relationship to learning, academic performance, and persistence to graduation (Astin, 1993). These models have implications for practice and policy in higher education. Astin's Theory of Student Involvement challenges institutions to "maximize the intellectual and personal development of students" (Astin, 1984, p. 35). Astin (1993) emphasized the role of higher institutions are to develop talent, which involves encouraging and challenging students to their fullest potential regardless of their background or academic abilities. Students who are encouraged to participate in meaningful learning activities and campus events both in and out of the classroom are more likely to integrate and persist to graduation. Astin's (1993) theory of Student Involvement and Tinto's (1993) theory of Student Departure provides the conceptual framework of this study and attempts to explain the impact of the college environment on student growth and development. Several student success program initiatives have been implemented to provide students with the opportunity to integrate into the academic and social system of the institution. These programs will be discussed as follows.

The Development of Student Success Programs

The first year of college is critical to student success because it is during this period that students decide to leave or stay in college (Astin, 1993; Pascarella & Terenzini, 2005; Tinto, 1993). Several program initiatives have been implemented to help first-year students adjust to their first year. One of the most common intervention strategies utilized in higher education is the implementation of First-Year Experience (FYE), most commonly known as Student Success Courses (SSC). The Student Success Movement started back in 1972 by John Gardner with the "University 101 course" taught at the University of South Carolina (Upcraft, Gardner, and Barefoot, 2005). Upcraft et al., (2005) advocated starting a movement which would change the

way higher education institutions welcome, assimilate, and support freshman students. This movement is referred to as the First Year Experience (FYE) or Student Success Course (SSC). To this date, approximately 90% of higher education institutions offer some form of the FYE or SSC (Upcraft et al., 2005). Topics in a typical SSC can include basic campus orientation, advising, counseling, time management, study skills, test-taking skills, academic and career goals. The assumption is that offering a variety of supportive services can help students become integrated into the college environment socially and academically, which ultimately increases their likelihood to succeed and persist (Tinto, 1993; Pike, Hansen & Lin, 2010).

Cueseo (2001) reported that Miami-Dade Community College (MDCC) was one of the first two-year institutions to report improvements in the retention rates of first-year students. Cueseo (2001) indicated that MDCC attributed this success, in part, to a course called College Success. The results of this study indicated that students who participated in the course during their first semester in college were more likely to persist and earn higher grades. After one year, findings indicated that 67% of participating students were retained compared to 46% of nonparticipants. Grade-point averages were also higher for students participating in the course when compared with their counterparts. In 1991, Santa Fe Community College (SFCC) began to explore the implementation of an intervention course using the strategies of Ellis College Survival model, patterned after the course offered at MDCC. This course was called SLS 1101, College Success, which was implemented at SFCC for the first time in the fall of 1991. A study examining the effectiveness of this course found that SLS to be significantly related to the retention rate for African-Americans and female students and GPA for African-Americans and male students. To date, there are numerous forms of Student Success Programs designed to

promote student retention and graduation. A summary of most commonly used Student Success Courses utilized in higher education to promote retention are discussed as follows.

College Readiness Program

Several program initiatives have been implemented to prepare college-bound students for postsecondary education. These programs generally target students who are underprepared, underprivileged, and those who have a strong desire to pursue higher education. College Readiness Programs and courses are designed to help freshman students make a smooth transition from high school to college. GEAR UP is an example of such program; It is designed to provide information about financial aid, family support, counseling, and tutoring to college-bound students. This student success initiative is based on the 21st Century Scholars program which provides scholarships to eligible students after high school graduation. A performance report presented by the U.S. Department of Education (2006), indicated that GEAR UP has a positive effect on student success outcomes. Some of the successful outcomes include an increase in the number of students graduating with honors, closed achievement gaps, a decrease in the number of drop-outs, and a decreased number of students requiring remediation.

A second pre-college-readiness program is the Federal TRIO Program (TRIO). This program was designed to identify and provide services for individuals from disadvantaged backgrounds. TRIO sponsors eight programs targeted to serve and assist low-income individuals, first-generation college students, and individuals with disabilities. Upward Bound, Student Support Services, Talent Search, Equal Opportunity Center and the McNair Program are all programs funded through TRIO. Meyers, Olsen, Seftor, Young, and Tuttle (2004) found that students enrolled in TRIO are more than twice as likely to remain in college than those from similar backgrounds who did not participate in the program. Finally, the Summer Bridge

College Readiness program at the focus of this study, provides orientation, academic activities, study skills and support to underprivileged college-bound students who have recently graduated from high school. The goal of Summer Bridge is to help students transition academically and socially into the college life. Summer Bridge candidates are first-generation college students from socioeconomically disadvantaged backgrounds who have demonstrated a strong desire to obtain a higher education. The students who are admitted begin their studies during the summer term following graduation and before fall matriculation in college. Upon completion of the program, students are given a stipend of up to $400 for their participation. In a study examining a Texas Summer Bridge program, results suggested that students who participate in Summer Bridge are more likely to pass the college entrance exam and persist into the second year (Wathington, Pretlow, & Barnett, 2016) than their counterparts. However, some studies have yielded inconclusive evidence of their impact on retention and persistence at community colleges (Cabrera, Miner & Milen, 2013; Douglas & Attewell, 2014). The purpose of this study is to examine the Summer Bridge program at a community college to determine whether participation in the course has any significant impact on students' GPA and retention.

First-Year Experience Course

The most commonly used intervention strategy targeted for first-year students are the First-Year Experiences Courses also referred to as Freshman Orientations Seminars. These courses may vary with each institution; however, the overarching goal is to orient students to the various services offered at the college, assist with academic and career planning, improve their study habits and help them acclimate to the college environment (O'Gara et al., 2008; Zeidenberg et al., 2007). Many incoming first-year students have not yet established their

educational goals or future career plans, have poor study habits, and are clueless as to what it takes to succeed in college.

Program and Course Components

Several key components have been cited in the literature which are critical to organizing an effective student success course. These components are discussed as follows:

Academic Support Services

Retention literature has consistently documented that students who are academically underprepared are more likely to drop out of college than their peers who are prepared (Noel-Levitz, 2008). Almost all institutions have some form of Academic Support which includes tutoring in all subject areas, academic workshops, writing centers, and remediation. Studies indicate that students who become frequently involved in the academic support services on campus are more likely to attain higher grades and complete their college degree, particularly if they began their involvement with these services during the first year of college (Astin, 1993; Cueseo, 2001; Tinto, 1993). Supportive services are essential in helping students overcome their academic deficiencies and are most effective during the first semester (Astin, 1993; Pascarella & Terenzini, 2005; Tinto, 1993). Higher education administrators should ensure that all SSC courses have an Academic Support Service component designed to move students successfully through to completion of their educational goals.

Academic Advising/Counseling

During the enrollment process, academic advisors are one of the first among faculty and staff to have contact with the student and play a key role in student development (Tinto, 1993). The goal of academic advising is to provide students with a mentor to guide them through their academic experience as they strive to meet their career and educational goals. Studies show that

first-year students who develop a clear sense of their educational goals are more likely to persist and graduate (Gordon, 2007; Pascarella & Terenzini, 2005). Gordon (2007), emphasized that students need a roadmap that guides them in understanding all the institutional resources available to them and the requirements that have to be met in order to attain their educational goal. Carey (2008) citied, "the quality of academic advising is the single most powerful predictor of satisfaction with campus environment" (p.12). Studies investigating the academic advising and counseling component of a first-year experience program indicated a significant increase in persistence and success through advising, counseling and mentoring of students (Bahr 2008; Pan, Guo, & Bai, 2008). For many students, social support in the form of advising, counseling and mentoring can mean the difference between staying or leaving college.

Learning Communities

Another strategy used to combat retention is the implementation of Learning Communities. Learning communities are created when the same students take two or more academic courses together, connected by a common theme. The objective of creating learning communities is to promote academic and social interaction among students around a shared educational goal (Bean, 2005; Tinto, 1993). These Learning Communities are effective in establishing a network of support among peers who share the same classroom experiences. Past studies have indicated that participating in a learning community has a positive effect on educational outcomes, including satisfaction with college, higher grades, and persistence (Beckett and Rosser 2007). More specifically, recent studies have shown that participating in a themed learning community is associated with significantly higher-grade point averages, particularly during the first semester, as well as higher persistence rates (Zhao & Kuh, 2004). Tinto (1998) found that underprepared students who participated in learning communities had

better attitudes toward learning and higher course completion rates than those who did not engage in learning communities. Self-reported data from more than 80,000 students revealed that participation in learning communities was associated with higher levels of academic integration, more interaction with faculty, and higher satisfaction with their college experience (Zhao & Kuh, 2004).

Campus Activities and Student Organizations

Tinto (1993) emphasized that student involvement and interaction in the social system of the college is essential to persistence and goal completion. Past studies have indicated that extracurricular activities and organizations such as fraternities, sororities, honors programs, ROTC, and sports have a positive influence on retention and academic outcomes (Kuh et al., 2008). When students feel like they are part of the campus community, they are more likely to commit to the institution and persist (Bean, 2005). O'Gara et al., 2008, reported that integration or a "sense of belonging" to the institution was positively associated with their persistence.

Service Learning

One of the goals and vision of Community Colleges is to prepare students to be productive citizens within their communities. The use of a Service Learning Program is an excellent opportunity for students to integrate socially while providing a service to the community. Past studies have indicated that participation in community service activities has some positive outcomes and educational benefits (Astin, 1993; Pascarella & Terenzini, 2005). Studies show service-learning improves students' grades and enables them to relate to real-world experiences and situations (Blyth, Saito, & Berkas, 1997). In a study of youths engaged in service learning, findings revealed that student who developed an emotional investment in a cause reported feeling an increase of social responsibility and community belonging (McGuire &

Gamble, 2006). Research studies indicate that students who are involved voluntarily in service-learning activities earn higher grades than students who do not get involved in any out-of-class activities (McGuire & Gamble, 2006).

Career Development

Career Development Services is great resource for providing students with career advising, exploring various career options and participating in social networking. Tinto (1993) indicated that a lack of clear academic and career goals are factors that can lead to student departure. Guiding the career development of first-year students has a positive effect on student satisfaction and retention efforts (Feldman & Whitcomb, 2005). Career development programs give students the opportunity to connect their college activities with their future career goals; thereby, making college meaningful to the student. Research on first-year undergraduate students perception of SSC programs indicated that they are more likely to stay in school and persist to graduation if they perceive their college experience to be meaningful and relevant (Noel-Levitz, 2008). It has been well documented that students in career-focused programs such as nursing, law enforcement, and paralegal studies, have relatively high rates of success in community colleges as compared to students who are not career-focused (Phillippe & Sullivan, 2005).

Faculty Interaction

Another factor that influences student retention is the quality of interaction that a student has with faculty and staff (Habley et al., 2012). Astin (1993) postulated that the quality and quantity of student involvement with faculty members both in and outside the classroom has a positive relationship to retention and persistence. Tinto (1993) cited, "Nowhere is the importance of student involvement more evident than in and around the classrooms of the

college" (p. 132). Astin (1993) suggests that talent development should be the primary goal of higher education institutions; therefore, the faculty members should encourage and challenge students to reach their fullest potential, regardless of their achievement level. The more students interact with faculty in a variety of formal and informal settings (in-and-out of the classroom), the more the student will be committed to the institution and their educational goals (Tinto, 1993). Lundquist, Spalding, and Landrum (2002) found that specific behaviors of faculty members contributed to the student persistence: faculty being approachable, supportive and providing feedback to students (Crissman-Ishler & Upcraft, 2005). Studies indicate that students who frequently interact with faculty members are more likely to express student satisfaction with all aspects of their college experience (Astin, 1993). Other studies have indicated that student's perception of faculty members' concern about their academic growth and their availability to students have positive and statistically significant effects on persistence, even when controlling for other variables (Paulson, & Faust, 2008). However, not all studies find the frequency of student-faculty contact outside of class positively related to persistence (Ruddock, Hanson & Moss, 1999). Students who feel alienated and have not integrated into the community are unlikely to seek contact with faculty members outside of the classroom (Tinto, 1993). Faculty members must make every effort to connect with students and help them integrate into the college environment academically and socially.

The Impact of Student Success Courses

A majority of studies examining the impact of SSC on retention have reported a positive influence on student success outcomes (Astin, 1993; Cabrera et al., 2013; Fowler & Boylan, 2013; Habley et al., 2012; Jamelske, 2009; Kimbark et al., 2017; O'Gara et al., 2008; Padgett et al., 2013; Zeidenberg et al., 2007). An investigation examining the first-year experience course of 28 community colleges revealed that students who participated in the first-year experience

course were more likely to improve their grade point averages (GPAs) than students who did not take the course (Zeidenberg et al., 2007). The results showed the effects of the first experience course on completion were positive and statistically significant. Bai and Pan (2010) examined the effectiveness of twenty intervention programs which comprised of 1,305 first-time, full-time students. Findings revealed that participation in first-year experience course had a positive effect on student retention and more so for older students and males, which were 11% more likely to persist than their counterparts. In general, researchers found that students who were enrolled in a first-year experience course were more likely than their peers to complete a certificate or an associate's degree (Zeidenberg et al., 2007). Researchers also indicated that at-risk students tend to show more of a positive effect and are particularly strong for the under-represented minorities.

Numerous studies examining the impact of the first-year experience on student retention, persistence, and academic achievement have yielded significant positive results; however, not all studies have not made such claims (Clark & Cundiff, 2011; Fike & Fike, 2008; Potts et al., 2004). Fike and Fike (2008) examined four years of data to determine the effectiveness of FYE. They found that enrollment in first-year experience course was not a predictor of persistence or retention when controlling for student characteristics. Potts et al. (2004) found no consistent positive effect on retention or GPA for students who participated in a cohort group of the first-year experience course. However, it was noted that at-risk students within this group showed some positive influences. Clark and Cundiff (2011) study concluded that is not clear how effective first-year experience courses are or to what extent they directly or indirectly impact retention. Ellis-O'Quinn (2012) study examining the retention of first-year students who enrolled in an orientation course at a community college revealed that students who did not

enroll in the course their first semester were no more likely to re-enroll in the Spring Semester than those who did enroll in the course. These findings contradict much of the literature on SSC, which shows a significant relationship between enrollment and retention. However, the results showed there is a significant relationship between enrollment in orientation and GPA. Given the mixed findings, the need for further research and assessment of SSC programs are warranted.

Limitations of Retention Studies

Numerous studies on first-year success programs have yielded an overall positive effect on student retention; however, it should be noted that many have their shortcomings and limitations. One of the most well-recognized weaknesses of studies on retention concerns their generalizability (Pascarella and Terenzini, 2005; Porter & Swing, 2006). Data from this study is similar to other previous studies based on a single institution, which significantly reduces the generalizability and applicability to other settings (Pascarella and Terenzini, 2005; Porter & Swing, 2006). Every institution has its unique characteristics and circumstances which makes it difficult to generalize the findings to other cases (Berger et al., 2012).

Another issue with some retention studies are methodological flaws that fail to account for student's background characteristics and confounding variables which can influence student's persistence (Pascarella and Terenizini, 2005; Tinto, 1993). Most of the literature on student retention have primarily focused on traditional students at four-year institutions (Bean & Metzer, 1985; Braxton & Lee, 2005). Many retention studies have relied heavily on the assumptions of Tinto's model, which did not account for non-traditional students and organizational factors (Bean & Metzer, 1985).

Also, this study examined historical data retrospectively to determine the relationship between participating in a SSC and student success outcomes. This study utilized an ex-post facto design; therefore, no causal link can be established. Finally, a longitudinal design

examining the relationship between participating in a SSC and student success outcomes would strengthen the findings of this study and add to the literature on student retention (Ellis-O-Quinn, 2012; Padgett et al., 2013).

Assumptions

Tinto's Theory of Student Departure (1993) and Astin's (1993) Student Involvement Theory suggests the more students are academically and socially involved in the college environment, the more likely they are to persist to graduation. Student Success programs were implemented to provide first-year students with the opportunity to integrate academically and socially into the college community. Community Colleges are considered commuter schools that generally do not offer the on-campus housing, team sports, sorority groups, and clubs as four-year universities; therefore, it is assumed that students have very few opportunities to integrate into the college community socially. In general, students attending community colleges tend to spend less time on campus than those enrolled at a four-year institution. However, many two-year institutions have made significant improvements in their programs by providing students with more extracurricular activities that promote academic and social integration.

Summary

The topic of student retention has been studied and examined numerous times over the past four decades (Astin, 1993; Bailey et al., 2010; Cabrera et al., 2013; Ellis-O'Quinn, 2012; Jamelske, 2009; Padgett et al., 2013; Tinto, 1993). Several theories and models have attempted to explain why retention rates are generally low at Community College and what causes some students to drop out of college voluntarily. Two of the most widely accepted theories, Tinto's (1987, 1993) Theory of Student Departure and Astin's (1984, 1993) Theory of Student Involvement were used as the framework to guide the study. Both models support student

involvement in the campus community (academically and socially) as a factor positively associated with student retention.

Several institutional interventions have been initiated to help students persist and succeed in college. The most widely used strategy is the implementation of First-Year Experience courses. Numerous studies examining the effects of FYE on retention, persistence and academic performance has yielded consistent results of a significantly positive impact (Braxton et al., 2011; Cabrera et al., 2013; Padgett et al., 2013; Porter & Swing, 2006; Tinto, 1993). However, not all have made this claim (Clark & Cundiff, 2011; Fike & Fike, 2008; Potts et al., 2008). Also, it is not clear which aspect of the course components is most strongly associated with improving retention rates; therefore, further research on these areas is recommended.

Despite the popularity of these courses, little research has been conducted on their effectiveness at community colleges (Zeidenberg et al., 2007). The majority of the research on retention and persistence focuses on four-year institutions. Therefore, the present study seeks to fill the gap in research by examining the effectiveness of a college success program, specifically, the Summer Bridge course an urban community college. The purpose of this study is to examine the effects of participating in SSC and student success outcomes at a community college. Finding from this study is useful to the research institution in determining the following: a) whether the program reduces the need for developmental education, b) whether it helps students transition successfully through college, and c) whether it enhances first-year students' academic achievement and persistence. The next chapter discusses the research design and the methodology used to conduct this study.

Chapter III

METHODOLOGY

Retention has been a major concern for higher education institutions, especially for community college. The National Center for Education Statistics (NCES), reported that only 29% of community college students graduate within three years of their initial enrollment (McFarland et al., 2017). Several theories have attempted to explain why students leave college before completing their educational goals (Astin, 1984; Bean & Metzner, 1985; Pascarella & Terenzini, 2005; Spady, 1970; Tinto, 1993). Two of the most widely accepted theories in the student retention literature are Tinto's (1987, 1993) Theory of Student Departure and Astin's (1984, 1993) Theory of Student Involvement were utilized to guide this study. Astin and Tinto (1993) emphasized the more students be integrated (academically and socially) and involved (formally and informally) into the collegiate environment, the more likely they are to persist to graduation (Astin, 1993; Tinto, 1993). While several Student Success Programs have been implemented to improve retention, research on the effectiveness of such programs are limited. The present study was initiated to the fill a gap in the literature on the effects of student success programs at two-year institutions.

The purpose of this study is to determine the effects of participating in a Summer Bridge College Readiness Course on student success outcomes for first-time, full-time community college students. This chapter provides an overview of the methodology that guided this study which includes: a description of the research design, the setting, participants in the study, variables used in the study, procedures for data collection, and data analysis.

Research Design

This study utilized a causal-comparative research design to examine the effects of participating in a Summer Bridge College Readiness Program has on student's success outcomes. This method was most appropriate for this study because the independent variable (participation or nonparticipation in Summer Bridge) had already occurred, so randomization or manipulation of the variable is not possible (Ary, Jacobs, Irvine & Walker, 2013). Numerous studies have made claims that SSC has a positive effect on student success indicators of GPA, persistence, and graduation (Cho & Karp, 2013; Ellis-O'Quinn, 2012; Zeidenberg et al., 2007; Pascarella & Terenzini, 2005). A quantitative research design would allow the researchers to test these theories by examining specific variables and the relationship among them (Creswell, 2014). This study tested the research hypotheses to determine if there are any differences in the means of academic achievement, retention, and graduation of first-time, full-time students who enrolled in SB and their counterparts.

Setting

The institution selected for this research study was Florida Community College (FCC), pseudonym name used to protect the institution's privacy. FCC is located in the southeastern part of Florida and serves approximately 50,000 students. FCC offers over 100 programs of study in which students can earn a vocational certificates, associate's degrees, bachelor's degrees or a diploma. Keeping aligned with their mission to provide high-quality, accessible education to all neighboring students, FCC has five state-of-the-art teaching and learning facilities as well as several off-campus educational centers to serve continuing adult education. The student body is comprised of 40% White, 32% Hispanic, 29% Black and 7% all others. The gender makeup consists of approximately 60% female and 40% male. Student's age range from 17 and over with the average being twenty-six. The Summer Bridge College Readiness (SB) program at the

focus of this study is a pre-college readiness program which provides orientation and academic support to selected underprivileged college-bound students. Summer Bridge is a 12-week Summer course for selected students following graduation from high school. Summer Bridge was first implemented at Florida Community College in 2006 to help first-year students transition into the college life. Numerous past studies have indicated that students who participate in a Student Success course are more likely to persist into the second year (Pascarella & Terenzini, 2005, Walpole, Simmerman, Mack, Mills, Scales & Albano, 2008). Florida Community College was selected for this study because of its diverse student population, convenience in location and accessibility.

Sample Participants

The participants of this study were comprised of two groups: a cohort of incoming first-time, full-time degree-seeking students who were enrolled in a Summer Bridge course during the Summer of 2015 served as the experimental group, and a matched group of non-participants who enrolled Fall 2015 were selected as the control group. Full-time status refers to students who were enrolled in 12 or more credit hours. First-time in college students are those who are attending for the first time or who have earned less than 12 credit hours. The total sample was comprised of 1,735 participants (747 males and 988 females) ages ranged from 16 to 20 years old with an average age of eighteen. The ethnicity reflected the diversity of the campus student demographics with 26% Black, 32% Hispanic, 32% White, and 10% Other.

Data Collection

Archival Data

Before collecting any data, an application to conduct research involving human subjects was submitted on March 27, 2018, to the Institutional Review Board (IRB) of Valdosta State

University. The researcher filed an expedited exemption since the study operated retrospectively and posed minimal risk to human subjects. The approval was granted on April 24, 2018, to begin research under the provisions of Category 4, which states:

"Research involving the collection or study of existing data, documents, records, pathological specimens, or diagnostic specimens, if these sources are publicly available or if the information is recorded by the investigator in such a manner that subjects cannot be identified, directly or through identifiers linked to the subjects." (45 CFR part 46)

A copy of the approval letter is included in Appendix A.

The next process involved getting an approval from the IRB at Florida Community College (research location) to conduct research. After the approval was granted, the Office of Institutional Effectiveness, Planning, and Research (IEPR) provided the requested data (age, gender, ethnicity, cumulative grade point average (CGPA) and cumulative credit hours earned) for participants in the study through the Student Information System (SIS). To protect student's identity, all identifying personal information was removed by the Office of IEPR before sending the dataset to the researcher via e-mail for analysis. Participants were randomly selected from two already-existing populations. Dataset included two groups: the treatment group, ($N = 74$) Summer Bridge students enrolled in Summer 2015 and the control group, ($N = 1661$) non-Summer Bridge students who enrolled in Fall 2015. Data on student's age, gender and ethnicity were collected to describe and compare the difference between groups on indicated variables. The students' cumulative grade point average (CGPA) were used to analyze academic performance. The cumulative credit hours earned were used to determine whether the student was retained or completed their program of study. Data was used to identify any differences in academic achievement, persistence and graduation rates between students who participated in SB

and those who did not. Next, data was coded and organized for input into Microsoft Excel for analysis. Since this study utilized secondary archival data, no additional instruments were used in the data collection phase.

Variables

The most commonly used metrics cited in the literature to evaluate and measure student success were academic achievement, persistence, retention, graduation and self-reported student satisfaction (Jamelske, 2009). This study utilized academic achievement, retention and graduation rates as the instruments to measure student success; Self-reported student satisfaction was not explored because this study did not involve contact with participants. The independent variable in this study is the participation or non-participation in the student success course. This variable is dichotomous and was coded as [1] for students who participated in SB, and [0] was used to indicate non-SB participators.

This study evaluated academic integration using five dependent variables: *academic performance* (as measured by GPA), *retention* (as measured by the number of credit hours completed) and *graduation* (as measured by degree completion). Two other commonly measured variables, gender, and ethnicity were also studied. A majority of past studies on student retention measured GPA, retention, graduation and self-reported student satisfaction (Jamelske, 2009).

Academic Achievement

In this study, academic achievement is defined as attaining satisfactory progress or higher in academic studies as the student progresses toward their educational goal. The most commonly used instrument to measure a student's academic performance is their grade point average (GPA). Grade point averages are commonly measured on a scale of 4.0 to 0 [A = 4.0, B = 3.0, C = 2.0, D = 1.0, F = 0] with 4.0 being the highest. For first-year undergraduate students, the GPA

has been found to be a strong predictor of persistence and student success (Astin, 1993; Jamelske, 2009). In Astin's IEO model, the Input variable (GPA) can affect the Environment (college experience), which can ultimately affect the Outcome. The input variable can also lead directly to the outcome in terms of graduation and retention. For example, if a student comes into college severely underprepared, this can directly affect their chances of persisting to graduation. A majority of previous studies have examined student's GPA over a semester or yearly period; however, due to the nature of this study and the availability of data, utilizing the student's cumulative grade point average (CGPA) over a three-year period seemed most appropriate for this causal-comparative study. The three-year cohort analysis included data from Summer 2015 to Spring 2018. At the end of year three (Spring 2018), the researcher compared the mean CGPA of both groups to determine if there were any significant difference between the two groups on academic achievement. This study also examined the ethnicity differences between the groups on academic performance.

Retention

Retention is often used interchangeably with persistence and refers to the completion of the first year of college, followed by subsequent re-enrollment in the second year.

In this study, retention was measured by the rate at which the student progressed toward completing their educational goal. Benchmarking is one of the most effective methods for evaluating student progress. Several past studies on retention have measured persistence from one term to the next. Tinto (1993) emphasized that the first-to-second year retention rate is a critical point for both the institution and student because it is usually the timeframe that students decide to leave or stay in college. However, to examine the long-term effects, this study measured retention as a continuous enrollment over a three-year period. Roksa and Calcagno

(2010) analyzed a cohort of first-time full time, degree-seeking students in Florida's community college system and found that students who reached the threshold of 24, 36, and 48 credit hours each academic year, was associated with higher likelihood of persisting to graduation or transfer to a university. Following Roksa & Calcagno's (2010) model as a guide, the benchmark for determining whether a student was retained in this study was set at 48 or more credit hours earned. Students who earned at least 48 cumulative credit hours were identified as having been retained and were coded a [1] and students who earned less than 48 credit hours were identified as not retained and coded a [0].

Graduation

Graduation occurs when the student has attained their educational goal by earned a certificate, degree or transfer to a University by program graduation requirements. The Integrated Postsecondary Education Data System (IPEDS) defines graduation rates as the number of students who completed their program of study within 150% of normal time (three years), divided by the number of students who entered the cohort. Past studies have indicated that students who are academically and socially involved in the college community are more likely than their peers to complete a certificate or an associate's degree (Zeidenberg et al., 2007). To earn an associate's degree at FCC generally requires that a student complete at least 60 credit hours (30 credit hours in general education and approximately 30 transferable credits). Therefore, any student who reached the threshold of 60 or more credits were identified as having completed their program of study and were coded a [1] and those who did not complete their program of study (as indicated by the number of credit hours) were coded a [0].

Demographic Characteristics

The student demographic characteristic variables in this study are age, gender, and ethnicity. These demographic characteristics were self-reported by the students on their applications for admissions and were included in the secondary dataset provided by the office of IREP. These variables were consistently referenced in the literature as influencing student success. (Adelman, 2006; Bean & Metzer, 1985; Kuh, et al, 2008; Zeidenberg et al., 2007). All of the participants in the study were traditional age students (less than 24 years old). For coding, the researcher divided students into two categories by age as follows: Ages 16 to 18 were coded as [1], and students between 19 to 20 were coded as [0]. The self-reported identity of the student was coded as [1] for female and [0] for a male. It should be noted that some students did not report their gender; therefore, were excluded in analysis related to gender differences. The number of students who did not report their gender was small and did not have a significant effect on the overall results. Statistical data reported by age, gender and ethnicity are instrumental in determining if institutions are narrowing achievement gaps among student subgroups. Numerous past studies have cited race and ethnicity as related to predicting student success outcomes (Astin, 1984; Douglas & Attewell, 2014; Noble, Flynn, Lee, Hilton, 2007; St. John, Hu, Simmons, Carter & Weber, 2014; Tinto, 1987). In a study examining the effects of a SSC program on GPAs and graduation, results revealed gender to be a statistically significant demographic predictor of first-time, full-time student retention (Noble et al., 2007). Findings also suggested that female students are more likely to be retained and graduate within four years as compared to their male counterparts.

For this study, the ethnicity refers to the cultural background of the student regarding their race. The race/ethnicity was coded using the self-reported ethnicity data obtained from

Florida Community College dataset. Ethnicity was divided into five categories: African-American, Asian, Hispanic, White and Other. Race/ethnicity was then recorded into five dichotomous variables for analysis as follows: 1) African-American (AA) coded [1] = AA, [0] = Not AA, 2) Asian coded [1] = Asian, [0] = Not Asian, 3) Hispanic coded [1] = Hispanic, [0] = Not Hispanic, 4) Other coded [1] = Other, [0] = Not Other and 5) White coded [1] = White, [0] = Not White. See Table 1, for a detailed description of the variable coding. Student's ethnicity has also been found to be a significant demographic predictor of first-time, full-time student retention (Astin, 1984; Douglas & Attewell, 2014; Noble, et al., 2007; St. John et al., 2014; Tinto, 1987). Previous studies have reported that White and Asian students were more likely to be retained in college than minority students (Astin, 1997, Noble et al., 2007; Nora, et al, 2012; St. John et al., 2014).

Table 1

Variables Operational Definitions

Conceptual Variable	Operational Definitions	Coding
SB Participant	Enrolled in the Summer Bridge College Readiness Course	1 = Enrolled 2 = Not Enrolled
Academic performance	Measured by cumulative grade point average (GPA)	Scale = 0.0 to 4.0
Retention	Successful completion of at least 48 credit hours	1 = Retained 2 = Not Retained
Graduation	Attainment of associate's degree (Successful completion of at least 60 credit hours)	1 = Completed 0 = Did not complete
Gender	Students' self-reported identity Male, Female, Non-Reported	1 = Female 0 = Male
Ethnicity	African-American (AA) 1 = AA	0= Not AA
	Asian 1 = Asian	0= Not Asian
	Hispanic 1 = Hispanic	0= Not Hispanic

Table 1 (Continued)

Other	1 = Other	0= Not Other
White	1 = White	0= Not White

Data Analysis

The data in this study were analyzed to determine whether there is any significant difference in academic achievement, retention and graduation rates between students who enrolled in SB and their counterparts who did not. Also, gender and ethnicity differences between the groups were also explored. Two theoretical frameworks, Tinto's (1993) Theory of Student Departure and Astin's (1993) Student Involvement Theory support the claim which suggests the more a student is academically and socially integrated into the college environment, the likely they are to earner better grades and persist to graduation. Data were analyzed using descriptive and inferential statistics.

Descriptive Statistics

The purpose of the descriptive analysis was to describe and compare the differences between the demographic characteristics of participants in this study. The descriptive statistics included in this study were frequency distributions, mean and standard deviation. These types of statistics are most appropriate for describing student demographic characteristics such as age, gender, and ethnicity.

Inferential Statistics

Inferential statistical techniques are utilized to determine if there were any significant difference between the independent variables and the dependent variables. The two inferential statistics used in this study were an independent samples t-test and an ANOVA. The following research questions were generated to guide this study.

Research Questions/Hypothesis Statements

RQ1: Is there any significant difference in the *academic achievement, retention and graduation rates* between students who participated in a Summer Bridge College Readiness program and their counterparts who did not?

RQ2: Is there any significant *gender* difference in the *academic achievement, retention and graduation rates* between students who participated in a Summer Bridge College Readiness program and their counterparts who did not?

RQ3: Is there any significant *ethnic* difference in the *academic achievement, retention and graduation rates* between students who participated in a Summer Bridge College Readiness program and their counterparts who did not?

A cohort analysis was conducted to determine if there were any statistically significant difference between the groups on the dependent variables. Hypothesis statements show the expected relationship between the independent and dependent variable and are most commonly used when comparing groups (Creswell, 2014). The statistical significance for the following hypotheses was determined at the .05 level as the criteria for determining whether to accept or reject the null hypotheses. All hypotheses were stated in the null form for testing and are as follows.

$H_0 1$: There is no statistically significant difference in the *academic achievement, retention and graduation rates* between students who participated in a Summer Bridge College Readiness program and their counterparts who did not.

$H_0 2$: There is no statistically significant *gender* difference in the *academic achievement, retention and graduation rates* between students who participated in a Summer Bridge College Readiness program and their counterparts who did not.

$H_0 3$: There is no statistically significant *ethnic* difference in the *academic achievement, retention and graduation rates* between students who participated in a Summer Bridge College Readiness program and their counterparts who did not.

To answer research question one, an independent samples t-test was used to determine if there were any significant difference in the academic performance, retention and graduation rates between students who participated in SB and non-SB participators. An independent sample t-test is the most commonly used statistical technique when comparing two independent groups. An alpha level of .05 was used to measure whether any significant difference that existed between the two groups. The t-test has three basic assumptions: 1) the two groups are independent of one another, 2) the dependent variable is normally distributed, and 3) the two groups have equal variance on each dependent variable. Since the number of observations varied for each group, a Levene's Test of Homogeneity of Variance was used to determine whether the groups had equal variances, see Table 2.

Table 2

Levene's Test for Homogeneity

Groups	*Count*	*Sum*	*Average*	*Variance*
SB	74	1097.4054	14.8298	133.8901
Non-SB	1661	33672.7499	20.2726	114.1050

ANOVA

Source of Variation	*SS*	*Df*	*MS*	*F*	*P-value*	*F crit*
Between Groups	2098.6618	1	2098.6618	18.2590	2.03286E-05	3.8468
Within Groups	199188.2702	1733	114.9384			
Total	201286.9321	1734				

The Levene's test revealed a p-value < .05, therefore we must reject the null hypothesis of the variances being the same for both groups. For this reason, the researcher utilized a two-sample t-test assuming unequal variance at an alpha level of .05 significance.

A one-way analysis of variance (ANOVA) was used to address research question two. The two independent groups were divided by gender to determine if there were any significant difference in the dependent variable by gender. For research question three, the two groups were divided by ethnicity to determine if there were any significant difference in the dependent variable by ethnicity. An analysis of variance (ANOVA) test is the appropriate statistical method to use when comparing two or more independent groups to determine how the means vary or differ from one another. The *F* statistic was obtained to determine if the ratio of the two variances are equal. Gravetter and Wallnau (2009) described the calculation of the F-ratio as a comparison of "actual mean differences between treatments with the number of differences that would be expected by chance" (p. 448). If a significant difference was found, a post hoc test follows to determine where the significant difference occurs (Lane, 2010). An alpha level of .05 was utilized for this study which is consistent with previous studies on retention.

Summary

This study employed a causal-comparative research design to examine the effects of participating in a Summer Bridge College Readiness Program on student success outcomes (academic performance, retention, and graduation) for SB students and non-SB students. Secondary archival data from the institution's Student Information System (SIS) database were used to investigate the difference in academic performance, persistence, and graduation between the groups. Students' grades were used to measure the academic performance, the cumulative number of credit hours was used to measure retention and program completion. Descriptive statistics and inferential statistical analysis techniques were utilized to analyze data. The results of this study are presented and discussed in Chapter Four.

Chapter IV

RESULTS

The purpose of this study was to determine if there is a significant relationship that exists between students participating in a Summer Bridge College Readiness course and their counterparts on student success outcomes. A Cohort Analysis of secondary data was utilized to evaluate the effect of Summer Bridge on the dependent variables (academic achievement, retention and graduation rates). This study examined the student success outcomes over a period of three years at FCC from Fall 2015 to Spring 2018. Tinto's Theory of Student Departure (1987, 1993) and Astin's Input-Environment-Outputs Model (1984, 1993) guided this study. These models suggest the more a student is involved in the academic and social system of the college; the more likely the student is to persist in attaining their educational goals. However, it should be noted that this study focused only on the academic integration of the college environment. Several Student Success programs have been implemented to improve retention rates. This study tested the effects of a Summer Bridge College Readiness course on student success outcomes using descriptive and inferential statistics. This study utilized secondary data which was provided by the Office of Institutional Research & Effectiveness at Florida Community College. Data for this study included student demographic information such as age, race, and gender. Descriptive statistics of the student demographic characteristics are as follows.

Descriptive Statistics of Student Demographics

The sample participants consisted of two independent groups: a cohort of first-time, full-time degree-seeking students who were enrolled in an SSC during the Summer of 2015 ($N = 74$) and a comparison group of non-participants ($N = 1661$) who enrolled Fall 2015. Participants' ages ranged from 16 to 20 years old ($M = 18.12$, $SD = 0.58$). The average age was 18 years old. Frequency distribution of the total sample by gender indicated there were slightly more females (56.3%) than males (42.4%), which is a normal trend for community college enrollments. The student demographic characteristics were representative of the student body population at Florida Community College with Black, 26%, Hispanic, 32%, White, 32% and Other 10% (includes American Indian, Asian, Pacific Islander, and ethnicities not reported). Descriptive statistics which includes frequencies and percentages were calculated for student demographic characteristics, see Table 3 below.

Table 3

Frequency Distribution for Student Demographic Characteristics

	Summer Bridge (n = 74)		Non-Summer Bridge (n = 1661)		Total Sample (n = 1735)	
Variable	n	%	n	%	N	%
Gender						
Female	50	67.6%	927	55.8%	977	56.3%
Male	22	29.7%	714	43.0%	736	42.4%
Not Reported	2	2.7%	20	1.2%	22	1.3%
Age						
18 and younger	68	91.9%	1349	81.2%	1417	81.7%
19 and older	6	8.1%	312	18.8%	318	18.3%
Ethnicity						
Asian	6	8.1%	49	3.0%	55	3.2%
Hispanic	15	20.3%	536	32.3%	551	31.8%
Multi-racial	2	2.7%	59	3.6%	61	3.5%

Table 3 (Continued)

Other	6	8.1%	64	3.9%	70	4.0%
White	9	12.2%	546	32.9%	555	32.0%

Inferential Statistics

The central question at the focus of this study is to determine whether there is any significant difference in the academic achievement, retention, and graduation of first-time, full-time, degree-seeking students who completed a Summer Bridge College Readiness course when compared with their counterparts. The following research questions were generated to guide this study.

RQ1: Is there any significant difference in the *academic achievement, retention and graduation rates* between students who participated in a Summer Bridge College Readiness program and their counterparts who did not?

An independent samples t-test comparing the means of the two groups on academic achievement (as measured by cumulative grade point average) revealed that Summer Bridge participant's CGPA were slightly higher ($M = 2.88$, $SD = 0.71$) than the comparison group ($M = 2.58$, $SD = 0.94$), a statistically significant difference, $t\ (85) = 3.49$, $p = .0008$ (two-tailed), $d = 0.36$. Cohen's effect size value suggested a small to moderate, practical significance. These results suggest that the Summer Bridge College Readiness course had a positive effect on students' academic achievement. The results of the independent's samples t-tests are presented in Table 4.

Table 4

Independent Samples t-Test of Academic Achievement Outcomes

	GPA-SB	*GPA-NSB*
Mean	2.88	2.58
Variance	0.50	0.88

Table 4 (Continued)

Standard Deviation	0.71	0.94
Observations	74	1650
Hypothesized Mean Difference	0.00	
Df	85	
t Stat	3.4941	
P(T<=t) one-tail	0.0004	
t Critical one-tail	1.6630	
P(T<=t) two-tail	0.0008	
t Critical two-tail	1.9883	

Note: $p < .05$, Reject Ho_{1A}

Results from the independent samples t-test comparing the means of the two groups on retention indicated that Summer Bridge participants were higher ($M = 0.70$, $SD = 0.46$) than the comparison group ($M = 0.48$, $SD = 0.50$), a statistically significant difference, t (81) = 4.13, p = 0.0001 (two-tailed) $d = 0.45$. Cohen's effect size value suggested a small to moderate, practical significance. These results suggest that the Summer Bridge College Readiness course does have a positive effect on student retention. The results of the independent's samples t-tests are presented in Table 5.

Table 5

Independent Samples t-Test of Retention Outcomes

	SB	*Non-SB*
Me	0.70	0.48
Variance	0.21	0.25
Standard Deviation	0.46	0.50
Observations	74.00	1661.00
Hypothesized Mean Difference	0.00	
Df	81.0000	

Table 5 (Continued)

t Stat	4.1267
P(T<=t) one-tail	0.0000
t Critical one-tail	1.6639
P(T<=t) two-tail	0.0001
t Critical two-tail	1.9897

Note: $p < .05$, Reject Ho_{1B}

Results from the independent samples t-test comparing the means of graduation rates revealed that Summer Bridge participants were significantly higher ($M = 0.68$, $SD = 0.48$) than the comparison group ($M = 0.32$, $SD = 0.47$), a statistically significant difference, $t\ (32) = 4.13$, $p = 0.0002$ (two-tailed) $d = 0.76$. Cohen's effect size value suggested a small to moderate, practical significance. These results suggest that the Summer Bridge College Readiness course does have a positive effect on student's completing their educational goals. The results of the independent's samples t-tests are presented in Table 6.

Table 6

Independent Samples t-Test of Graduation Rates Outcomes

	SB	*Non-SB*
Mean	0.68	0.32
Variance	0.23	0.22
Standard Deviation	0.48	0.47
Observations	31.00	761.00
Hypothesized Mean Difference	0.00	
Df	32.00	
t Stat	4.1311	
P(T<=t) one-tail	0.0001	
t Critical one-tail	1.6939	
P(T<=t) two-tail	0.0002	
t Critical two-tail	2.0369	

Note: $p < .05$, Reject Ho_{1C}

RQ2: Is there any significant *gender* difference in the *academic achievement, retention and graduation rates* between students who participated in a Summer Bridge College Readiness program and their counterparts who did not?

To test this hypothesis, participants were divided into two groups. The results showed there is a statistically significant gender difference in the academic achievement of SB-participators and non-SB participators [F (3, 1692) = 8.11, p = .00002]. The partial eta square effect size suggested the magnitude of this difference was small to moderate (η^2 = 0.01) practical significance. The null hypotheses of no difference between the means were rejected, see Table 7.

Table 7

ANOVA – Differences in Academic Achievement by Gender

Groups	*Count*	*Sum*	*Average*	*Variance*	*STD*
Female SB	50	145.31	2.91	0.54	0.74
Male SB	22	61.35	2.79	0.45	0.67
Female NSB	916	2445.15	2.67	0.82	0.91
Male NSB	708	1753.01	2.48	0.92	0.96

Source of Variation	*SS*	*df*	*MS*	*F*	*P-value*	*F crit*
Between Groups	20.7520	3	6.9173	8.1192	2.27862E-05	2.6102
Within Groups	1441.5280	1692	0.8520			
Total	1462.2799	1695				

Note: $p < .05$, Reject Ho_{2A}

A post-hoc comparison follow-up using a Tukey Honestly Significant Difference (HSD) test indicated that the mean GPA score for females SB students (M = 2.91, SD = 0.74) were significantly higher than male SB students (M = 2.79, SD = 0.67). The same can be said for female non-SB students (M = 2.67, SD = 0.91), whose mean score was significantly higher than

male non-SB students (M = 2.48, SD = 0.96). $p < .05$ in each case. These results suggest that female students on average tend to perform higher in academics than males.

The results comparing gender differences on retention showed there is the statistically significant difference in the retention of SB-participators and non-SB participators [F (3, 788) = 4.84, p = .0024]. The partial eta square effect size suggested the magnitude of this difference was small to moderate ($\eta^2 = 0.02$) practical significance. Therefore, the null hypotheses of no difference between the means were rejected, see Table 8. A post-hoc comparison follow-up using a Tukey HSD test indicated that the retention average for females SB students (M = 0.88, SD = 0.41) were significantly higher than male non-SB students (M = 0.44, SD = 0.50) at p < .05 $\eta = 0.01$]. The partial eta square effect suggested a small to moderate, practical significance. These results suggest that female Summer Bridge students were retained at a higher rate than male students.

Table 8

ANOVA test for Differences in Retention Rates by Gender

Groups	*Count*	*Sum*	*Average*	*Variance*	*STD*
Female SB	20	16	0.80	0.17	0.41
Male SB	11	8	0.73	0.22	0.47
Female NSB	436	221	0.51	0.25	0.50
Male NSB	325	142	0.44	0.25	0.50

ANOVA

Source of Variation	*SS*	*df*	*MS*	*F*	*P-value*	*F crit*
Between Groups	3.5796	3	1.1932	4.8387	0.00241603	2.6162
Within Groups	194.3181	788	0.2466			
Total	197.8977	791				

Note: $p < .05$, Reject Ho_{2B}

The results of the ANOVA showed there is a statistically significant gender difference in the graduation rates of SB-participators and non-SB participators [F (3, 788) = 7.69, p = .0000046]. The partial eta square effect size suggested the magnitude of this difference was small to moderate (η^2 = 0.03) practical significance. Therefore, the null hypotheses of no difference between the means were rejected, see Table 4.8. A post-hoc comparison follow-up using a Tukey HSD test indicated that the graduation rates for SB students (M = 0.69, SD = 0.48) were significantly higher than non-SB students (M = 0.31, SD = 0.47); However, the male SB students (M = 0.73, SD = 0.47) were significantly higher than any other group at $p < .05$. These results suggest that the Summer Bridge course has a positive effect on graduation rates, especially for male students (see Table 9).

Table 9

ANOVA Summary for Differences in Graduation Rates by Gender

Groups	*Count*	*Sum*	*Average*	*Variance*	*STD*
Female SB	20	13	0.65	0.24	0.49
Male SB	11	8	0.73	0.22	0.47
Female NSB	436	153	0.35	0.23	0.48
Male NSB	325	89	0.27	0.20	0.45

Source of Variation	*SS*	*df*	*MS*	*F*	*P-value*	*F crit*
Between Groups	4.9963	3	1.6654	7.6894	4.54969E-05	2.6162
Within Groups	170.6691	788	0.2166			
Total	175.6654	791				

Note: $p < .05$, Reject Ho2C

RQ3: Is there any significant *ethnic* difference in the *academic achievement, retention and graduation rates* between students who participated in a Summer Bridge College Readiness program and their counterparts who did not?

To test this hypothesis, we divided the participants into groups by ethnicity. The results from the ANOVA test showed there is a statistically significant difference in academic achievement between the ethnicities of students who participate in SB and non-SB participators F (9, 1710) = 7.15, $p < .05$. Based on the results, we can reject the null hypothesis and accept the alternative that not all means are equal. The post-hoc Tukey HSD test was used to identify the groups that are significantly different. Post hoc comparisons using the Tukey HSD Test indicated that the GPA mean of Asian SB students (M = 3.40, SD = 0.37) were significantly higher than all other ethnic groups, followed by White NB students (M = 3.05, SD = 0.54), then Hispanic SB students (M = 2.92, SD = 0.52) with Black SB students scoring the lowest (M = 2.36, SD = 0.91) at $p < .05$, see Table 10. Overall SB participants GPA were higher than the non-SB participants. The partial eta square effect size suggested the magnitude of this difference was small to moderate ($\eta^2 = 0.04$) practical significance.

Table 10

ANOVA - Differences in Academic Achievement by Ethnicity

Groups	*Count*	*Sum*	*Average*	*Variance*	*STD*	
Asian SB	6	20.41	3.40	0.14	0.37	
Black SB	36	98.18	2.73	0.60	0.77	
Hispanic SB	15	43.81	2.92	0.27	0.52	
Other SB	8	23.23	2.90	0.83	0.91	
White SB	9	27.46	3.05	0.29	0.54	
Asian NSB	49	149.74	3.06	0.42	0.65	
Black NSB	407	961.16	2.36	0.82	0.91	
Hispanic NSB	533	1378.45	2.59	0.86	0.93	
Other NSB	120	296.63	2.47	1.00	1.00	
White NSB	537	1468.56	2.73	0.87	0.93	
Source of Variation	*SS*	*df*	*MS*	*F*	*P-value*	*F crit*
Between Groups	53.6822	9	5.9647	7.1472	3.123E-10	1.8853
Within Groups	1427.0789	1710	0.8345			
Total	1480.7612	1719				

Note: $p < .05$, Reject H_{o3A}

A graph of the difference in academic achievement between the groups by ethnicities is displayed in Figure 1 below.

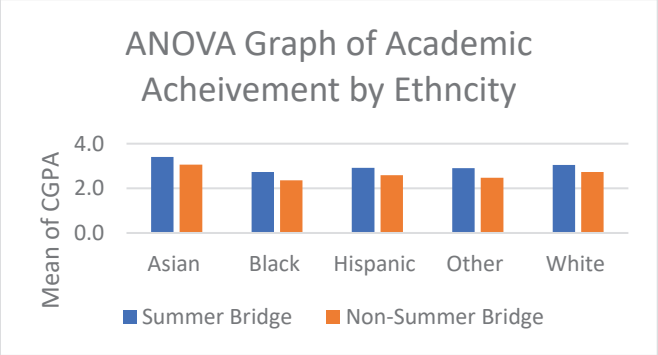

Figure 1. ANOVA test of differences between the groups by ethnicity.

The ANOVA test examining ethnic differences on retention rates revealed there is a statistically significant difference in retention rates between the ethnicities of students who participate in SB and non-SB participators F (9, 1725) = 3.25, $p < .05$. Based on the results, we can reject the null hypothesis and accept the alternative that not all means are equal. The post-hoc Tukey HSD test was used to identify the groups that are significantly different. The results revealed indicated Asian NSB students (M = 0.67, SD = 0.47) had significantly higher retention rates than Hispanic NSB students (M = 0.48, SD = 0.50) and Black NSB students (M = 0.46, SD = 0.50) at $p < .05$, see Table 4.10. The partial eta square effect size suggested the magnitude of this difference was small to moderate (η^2 = 0.02) practical significance.

Table 11

ANOVA - Differences in Retention by Ethnicity

Groups	*Count*	*Sum*	*Average*	*Variance*	*STD*
Asian SB	6	6	1	0	0
Black SB	36	23	0.64	0.24	0.49
Hispanic SB	15	10	0.67	0.24	0.49
Other SB	8	5	0.63	0.27	0.52
White SB	9	8	0.89	0.11	0.33
Asian NSB	49	33	0.67	0.22	0.47
Black NSB	408	186	0.46	0.25	0.50

Table 11 (Continued)

Hispanic NSB	536	256	0.48	0.25	0.50
Other NSB	122	51	0.42	0.25	0.50
White NSB	546	265	0.49	0.25	0.50

ANOVA

Source of Variation	*SS*	*Df*	*MS*	*F*	*P-value*	*F crit*
Between Groups	7.2254	9	0.8028	3.2495	0.000633323	1.8853
Within Groups	426.1786	1725	0.2471			
Total	433.4040	1734				

The ANOVA test comparing ethnic differences on graduation revealed there is a statistically significant difference in graduation rates between the ethnicities of students who participate in SB and non-SB participators F (9, 1725) = 4.31, $p < .05$. Based on the results, we can reject the null hypothesis and accept the alternative that not all means are equal. The post-hoc Tukey HSD test indicated that Asian SB students (M = 0.83, SD = 0.41) had significantly higher completion rates than any other ethnic group at $p < .05$, see Table 12. The partial eta square effect size suggested the magnitude of this difference was small to moderate ($\eta^2 = 0.02$) practical significance.

Table 12

ANOVA - Differences in Graduation Rate by Ethnicity

Groups	*Count*	*Sum*	*Average*	*Variance*	*STD*
Asian SB	6	5	0.83	0.17	0.41
Black SB	36	18	0.50	0.26	0.51
Hispanic SB	15	9	0.60	0.26	0.51
Other SB	8	4	0.50	0.29	0.53
White SB	9	6	0.67	0.25	0.50
Asian NSB	49	28	0.57	0.25	0.50
Black NSB	408	115	0.28	0.20	0.45
Hispanic NSB	536	183	0.34	0.23	0.47
Other NSB	122	40	0.33	0.22	0.47
White NSB	546	196	0.36	0.23	0.48

Table 12 (Continued)

ANOVA

Source of Variation	*SS*	*Df*	*MS*	*F*	*P-value*	*F crit*
Between Groups	8.6655	9	0.9628	4.3133	1.43719E-05	1.8853
Within Groups	385.0659	1725	0.2232			
Total	393.7314	1734				

Note: $p < .05$, Reject H_{o3C}

Summary

The research questions utilized in this study were answered using descriptive statistics (mean and standard deviation) and inferential statistics (t-tests and ANOVA). Overall results revealed that students who participated in the Summer Bridge College Readiness program at FCC during Summer 2015 had an overall higher average in academic achievement, retention and graduation rates when compared to their counterparts who did not enroll in the Summer Bridge course. Inferential statistical results revealed a significant difference between the groups on all three student success outcomes which is consistent with numerous past studies on Student Success Courses (Astin, 1993; Bailey et al., 2010; Cabrera et al., 2013; Ellis-O'Quinn, 2012; Jamelske, 2009; O'Gara et al., 2008; Padgett et al., 2013; Tinto, 1993; Zeidenberg et al., 2007). The next chapter interprets the findings, discusses implications for practice, provides recommendations for further research, and summarize the conclusion of the study.

Chapter V

CONCLUSION

Discussion

The open-access admission policy, low-tuition rates, and convenience in a location that Community College offers attracts students from various backgrounds and academic levels. Each year many students enroll in college; however, few persist to degree attainment. The National Center for Education Statistics (NCES), report of the first-time, full-time degree-seeking students entering community college, only 29% attain it within 150% of the normal time. Low retention rates have a negative impact on students, the institution, and the economy. Community college plays a crucial role in educating the workforce of the future. By 2020, it is expected that approximately 63% of all jobs in the economy will require a training certificate or college degree (Carenevale et al., 2011). Persisting to degree completion can provide students with more opportunities and higher wages.

Several theories have been developed to explain why some students choose to drop out of college. Two of the most widely accepted theories in student retention, Tinto's (1975, 1993) Theory of Student Departure and Astin's Input-Environmental-Outcome (IEO) Model (1984, 1993) were used as the framework to guide this study. These models explain how various factors and interaction with the college environment influence student outcomes. Tinto (1993) and Astin (1993) suggest the more a student become involved in the academic and social system of the institution, the more likely they are to persist in their educational goal. This study focused only on the academic system of the college since it is the most influential in terms of graduation.

Several program initiatives have been implemented to improve retention rates. The most commonly used strategy to combat retention is Student Success Courses. There are many variations of this course; however, the overarching goal is to help first-year students adjust to college by providing them with supportive services, mentoring, and counseling. The Student Success Course (SSC) at the focus of this study is the Summer Bridge College Readiness course, developed especially for recent high school graduates who are seeking a degree. Several studies have examined the effects of a SSC on academic achievement, persistence, retention and graduation (Bai & Pan, 2009; Fowler & Boylan, 2010; Kimbark, Peters, & Richardson, 2017; O'Gara et al., 2008; Padgett et al., 2013; Pike et al., 2010; Porter & Swing, 2006; Zeidenberg et al., 2007); however, research examining the effectiveness of these programs at the community college level are limited.

The purpose of this study was to conduct a three-year cohort analysis examining the influences of a Summer Bridge College Readiness course on student success outcomes (academic performance, retention, and graduation). This study compared the students who participated in Summer Bridge to a matched group who did not participate. Only first-time, full-time, degree-seeking students were included in this study. An examination of archival data from Summer 2015 to Spring 2018 was analyzed for this study. Dataset included two groups: Summer Bridge participators who enrolled Summer 2015 ($N = 74$) and Non-SB participators ($N = 1661$), who enrolled Fall 2015. The data was used to examine any difference in academic achievement, persistence and graduation rates between SB-participators and non-participators. Data were coded and analyzed in Microsoft Excel for analysis.

This study is significant for the following reasons. First, it fills the gap in the literature on student retention at the community college level. Second, it contributes more information on

the effects of Student Success programs. Third, the disaggregated findings by gender and ethnicity allow administrators to identify groups of students who are succeeding and those who are most at-risk. This chapter summarizes the study's key findings at the end of a three-year period, discusses the implications, and recommendations for future research.

Summary of Findings

The participants in this study were comprised of first-time, full-time, traditional students (24 or younger). The average age was 18, which is expected since Summer Bridge was geared for recent high school graduates who are degree-seeking students. Descriptive statistics indicated there were more females (57%) than males (43%), which is consistent with the literature on community college enrollments by gender. The ethnic makeup of the participants was representative of the student population at Florida Community College with Asian, 3.2%, Black, 26%, Hispanic, 32%, Multi-racial 3.5%, White, 32% and Other 4% (includes American Indian, Pacific Islander, and ethnicities not reported).

The primary goal of this study was to answer the following research questions.

RQ1: Is there any significant difference in the *academic achievement, retention and graduation rates* between students who participated in a Summer Bridge College Readiness program and their counterparts who did not?

The analysis of the independent samples t-test comparing the means of the two groups revealed a statistically significant difference. Results revealed a statistically significant difference between the two groups on all three measures (academic achievement, retention, and graduation). It was found that Summer Bridge participants overall performance was higher than the comparison groups (non-SB participants), a statistically significant difference, which suggest that participation in Summer Bridge had a positive effect on academic integration. Cohen's

effect size value on each measure suggested a small to moderate, practical significance. These findings are supported by numerous past studies which suggest Summer Bridge has a positive effect on student success outcomes (Attewell, Lavin, Domina & Levey, 2006; Braxton et al., 2011; Cabrera et al., 2013; Cho & Karp, 2013; Derby, 2007; Padgett et al., 2013; Porter & Swing, 2006; Tinto, 1993; Wilkerson, 2008; Zeidenberg et al., 2007).

RQ2A: Is there any significant *gender* difference in the *academic achievement, retention and graduation rates* between students who participated in a Summer Bridge College Readiness program and their counterparts who did not?

The results of the ANOVA test showed there is a statistically significant gender difference in the academic achievement, retention and graduation rates between the gender groups. Therefore, the null hypotheses of no difference between the means were rejected. A post-hoc comparison follow-up using a Tukey Honestly Significant Difference (HSD) test indicated that the mean GPA score for females SB students was significantly higher than male SB students. The same was true for female non-SB students, whose mean score was significantly higher than male non-SB students. These results suggest that females tend to perform better academically than their male counterparts. These results support the findings of previous studies which suggest female students are more likely to perform academically better as compared to males (Astin, 1993; Noble et al., 2007). However, Summer Bridge male student's graduation rates were slightly higher than Summer Bridge females. The partial eta square effect size suggested the magnitude of this difference was small to moderate practical significance.

RQ3: Is there any significant *ethnic* difference in the *academic achievement, retention and graduation rates* between students who participated in a Summer Bridge College Readiness program and their counterparts who did not?

The results from the ANOVA test indicated there is a significant difference in the academic achievement, retention and graduation rates between the ethnicity groups. Based on the results, we can reject the null hypothesis and accept the alternative that not all means are equal. Results were consistent across all three measures, indicating a significant difference between the groups. The post-hoc Tukey HSD test indicated that Asian Summer Bridge students performed significantly higher than any other ethnic group, followed by White Summer Bridge students with minorities performing the lowest. The partial eta square effect size suggested the magnitude of this difference was small to moderate practical significance. These findings are supported in the literature from National Center for Education Statistics (2017), which reported that Black and Hispanic students are less likely than their White and Asian peers to obtain a degree within 150% of normal time. Greene, Marti, & McClenney (2008) reported similar results in a study which examined the academic performance of 3,143 students in 36 Florida community colleges. Results indicated that Black and Hispanic students achieved significantly lower grades than their White peers. Some studies cite socioeconomic status, family obligations, motivation and commitment to earning a degree as contributing factors that influence student success outcomes for minority students (Bradley & Blanco, 2010, Mullin, 2011). The overall results of this study suggest that there is evidence that the Summer Bridge program has a positive effect on student success outcomes for first-year students.

Implications for Practice and Policy

The long-term effects of low retention rates can be damaging for students, the institution, and the economy. Failure to persist in attaining a degree significantly reduces students' chances of obtaining a successful career with higher earnings. Demands and pressure for accountability from state and federal lawmakers consistently emphasize the importance of improving retention

rates to avoid loss of funding, accreditation, and reputation. An institution's effectiveness is often assessed in terms of academic achievement, retention rates, and timely graduation. Pascarella and Terenzini (2005) concluded, "As the pressures have grown on institutions to increase retention and degree completion, so has the research examining the effectiveness of programmatic interventions designed to promote both outcomes" (p. 398).

High attrition rates negatively affect the workforce and our society when we fall short as a nation in producing highly educated individuals who are capable of leading the future of our country. In 2009, President Obama introduced the American Graduation Initiative (AGI), in which he challenged higher education institutions to produce the highest proportion of college graduates in the world. Producing a more educated workforce reduces the vast number of tax dollars spent on public assistance programs, the criminal justice system, and healthcare.

Limitations

Some limitations must be acknowledged when interpreting the findings of this study. Numerous past studies on first-year success programs have yielded an overall positive effect on student retention; however, there are some shortcomings and limitations. One of the most well-recognized weaknesses of studies on retention concerns their generalizability (Pascarella and Terenzini, 2005; Porter & Swing, 2006). Data from this study is based on a single institution, which significantly reduces the generalizability and application to other settings (Pascarella and Terenzini, 2005; Porter & Swing, 2006). Second, this study employed a causal-comparative research design, which does not prove cause and effect; therefore the results should be interpreted with caution. Tinto (1993) and Astin (1993) emphasized that students who integrate academically and socially into the college environment increase their likelihood of persistence; however, this study focused only on the academic integration. Lastly, this study utilized a

retrospective design. Therefore, random sampling of participants to a group was not possible. A longitudinal experimental design examining the relationship between participating in a SSC and student success outcomes would strengthen the findings of this study (Ellis-O'Quinn, 2012; Padgett et al., 2013).

Recommendations for Higher Education Practice

As outlined in their mission statement, Community Colleges have a responsibility to prepare its diverse students for the challenges of the 21st century. Higher education administrators, faculty, and staff must utilize strategies that empower its students to persist to degree completion. Recommendations for higher education practice are as follows:

1. Given the evidence from this study and numerous past studies which have reported that SSC has a positive effect on student success outcomes, these courses should be available for all freshman students (including part-time, non-traditional, and transfer) regardless of their enrollment status.
2. Implement Student Success Courses targeted explicitly for student subgroups that are considered "high-risk" (e.g., black males, Hispanics, and underprepared students).
3. Implement Success Courses within a subject area (e.g., Math Success Course; Reading Success Course).
4. Urge students to take a minimum of 15 credit hours each semester. Students who take 15-credit course loads each semester are more likely to graduate and complete their degree within a normal timeframe than those who take less than 15 credit hours.
5. Conduct longitudinal cohort analysis periodically to see the gaps in progression and achievement among different student subgroups.

6. Track and monitor students at specific benchmarks and use data to improve educational practice.
7. Ensure that all success courses provide students with the opportunity to engage, integrate both academically and socially into the college environment (Astin, 1993; Tinto, 1993).
8. Create meaningful extracurricular activities that are relevant to the student's career goals.
9. Provide continued support beyond just the first year as student progress toward their educational goals.
10. Ensure that faculty and staff have the skills and training needed to create an engaging learning environment.

Recommendations for Further Research

Based on the findings of this study, the following recommendations are suggested for future studies:

1. Evidence from this study and a majority of past studies have supported the idea that Student Success Courses have a positive effect on first-year, full-time students; Future research should expand the sample to include first-year part-time, transfer and non-traditional students.
2. There is a lack of current research examining the effectiveness of Summer Bridge programs at the community college level; further research on this topic is warranted (Ellis-O'Quinn, 2012).
3. A longitudinal design would provide more insight into the long-term effects of first-year success programs.
4. Further research examining which aspect of the Summer Bridge program has the greatest impact on student success outcomes should be explored.

5. Findings of this study suggest that the Summer Bridge College Readiness course had more of a positive effect on females than males. Results also showed that success outcomes for Asian and White were significantly higher than all other ethnic groups. Based on these findings, further research is needed to explore data analysis by gender and ethnicity to fully understand why specific subgroups of students perform significantly higher than others.
6. This study is based on a single institution, which significantly reduces the generalizability and applicability to other settings. Further research examining Summer Bridge at several community colleges across the US would strengthen the findings of this study.
7. The study should be replicated using a mixed methods design (an experimental design with a qualitative component) to add more creditability to current findings. A qualitative component which focuses on the student's perspective on the effectiveness of the course would add more insight into understanding student retention.
8. This study focused only on the academic integration; the social integration also plays a significant role in student success outcomes. Further research examining the impact of social integration is warranted.

Conclusion

The purpose of this study was to examine the effects of a Summer Bridge College readiness program on student success outcomes at a community college. At the 95% confidence level, the results indicated there is a high probability that the Summer Bridge College Readiness course had a positive influence on the academic integration (academic performance, retention, and graduation) of first-time, full-time degree-seeking students. These results are consistent with previous studies which claimed SSC has a positive effect on student success outcomes (Bai &

Pan , 2009; Cabrera et al., 2013; Fowler & Boylan, 2010; O'Gara et al., 2008; Padgett et al., 2013; Pike et al., 2010; Porter & Swing, 2006; Zeidenberg et al., 2007). Tinto's (1987, 1993) Theory of Student Departure and Astin's Input-Environmental-Outcome (IEO) Model (1984, 1993) were used as the framework to guide this study. Both theories support the findings of this study which suggest more a student becomes involved in the academic and social system of the institution, the more likely they are to persist in their educational goal. It was interesting to note that overall, students with higher GPAs, earned more credit hours than students with lower GPAs. These outcomes are consistent with Tinto's and Astin's model which suggests the more committed a student is to his or her educational goal, the more they will get out. These models also support the idea of higher education institutions taking an active role in providing students with the services and support needed to succeed in college. This study provides evidence that Summer Bridge had a positive, statistically significant effects on participants' academic achievement, retention and graduation rates. Although finding revealed a statistically significant difference between the groups on success indicators, no causal link can be established. Further investigation into the effects of enrolling in a Summer Bridge course using an experimental design with a qualitative component is warranted. This study provides administrators and policymakers with research-based evidence to make informed decisions about the funding, improvements, or redesign of successful programs to maximize student retention and graduation. Lastly, this study adds to the literature on retention studies at community colleges and support student success initiatives such as Summer Bridge.

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APPENDIX A

Protocol Exemption Report

Institutional Review Board (IRB)
for the Protection of Human Research Participants
PROTOCOL EXEMPTION REPORT

PROTOCOL NUMBER:	**03604-2018**	**INVESTIGATOR:**	**Ms. Terri J. Speights**
		SUPERVISING FACULTY:	**Dr. James L. Pate**
PROJECT TITLE:	*An Examination of the Relationship Between Students Participating in a College Readiness Course and Success Outcomes at a Community College.*		

INSTITUTIONAL REVIEW BOARD DETERMINATION:

This research protocol is **Exempt** from Institutional Review Board (IRB) oversight under **Category 4**. This research study is authorized to begin effective 04.24.2018. If the nature of the research study changes such that exemption criteria may no longer apply, please consult with the IRB Administrator (irb@valdosta.edu) before instituting any changes.

ADDITIONAL COMMENTS:

☒ *Should the nature of this approved research study change in a manner that the exemption criteria may no longer apply, the researcher must consult with the IRB Administrator (irb@valdosta.edu) before implementing any changes. Please submit all revised documents to the IRB Administrator at irb@valdosta.edu to ensure an updated record of your IRB.*

Elizabeth W. Olphie 03.22.2018
Elizabeth W. Olphie, IRB Administrator Date

Thank you for submitting an IRB application.
Please direct questions to irb@valdosta.edu or 229-259-5045.

Revised: 06.02.16